AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for a digital printing press, the method comprising estimating an ink thickness control parameter based on ~~current and~~ past measurements of at least one state parameter of the digital printing press without measuring optical density of ink on a print.

2. (Currently amended) ~~The method of claim 1, wherein the control parameter is~~ A method for a digital printing press, the method comprising estimating developer voltage based on current and past measurements of at least one state parameter of the digital printing press.

3. (Original) The method of claim 2, wherein the printing press includes a plurality of different inks, and wherein a developer voltage is estimated for each ink.

4. (Previously presented) The method of claim 1, wherein the past measurements are used to generate an estimation model; and wherein the model is applied to the current measurement of the at least one state parameter of the digital printing press.

5. (Cancelled)

6. (Cancelled)

7. (Original) The method of claim 4, further comprising updating the model with additional measurements.

8. (Previously presented) The method of claim 2, further comprising using the estimated developer voltage to print swatches at different digital dot

areas; and for each swatch measuring optical density, computing physical dot area, and adding dot area coverage to a dot gain table.

9. (Previously presented) The method of claim 8, wherein the dot gain table is based on past observations of the at least one state parameter of the digital printing press.

10. (Original) The method of claim 1, wherein the control parameter is developer voltage, the method further comprising applying the estimated developer voltage to a BID unit while using the BID unit to deposit ink dots.

11. (Cancelled)

12. (Previously presented) A digital printing press comprising:

a print engine for depositing ink at a thickness that is determined at least in part by developer voltage; and

a processor for estimating the developer voltage by applying an estimation model to measured state parameters of the digital printing press.

13. (Previously presented) The digital printing press of claim 12, wherein the print engine includes at least one BID unit, and wherein the printing press includes control hardware for controlling each BID unit at an estimated developer voltage.

14. (Previously presented) The digital printing press of claim 12, further comprising an optical densitometer; and wherein the processor uses an output of the optical densitometer to infer ink thickness.

15. (Previously presented) The digital printing press of claim 12, further comprising sensors for measuring different state parameters of the digital

printing press; and wherein the processor uses at least some of the measurements of the different state parameters.

16. (Previously presented) The digital printing press of claim 12, wherein the estimated developer voltage is used to print swatches at different digital dot areas, and wherein the processor computes physical dot area, and adds dot area coverage to a dot gain table.

17. (Previously presented) The digital printing press of claim 12, wherein the print engine includes a PIP drum, a writing head and a plurality of BID units disposed about the drum, and an intermediate transfer member adjacent the PIP drum.

Claims 18-27 (Cancelled)

28. (Currently amended) ~~The method of claim 4,~~ A method for a digital printing press, the method comprising estimating an ink thickness control parameter based on current and past measurements of at least one state parameter of the digital printing press; wherein a statistical learning system is used to generate [[the]] an estimation model from the past measurements; and wherein the model is applied to the current measurement of the at least one state parameter of the digital printing press.

29. (Previously presented) An article for the digital printing press of claim 12, the article comprising memory encoded with data for causing the processor to generate the estimation model of developer voltage from past measurements of developer voltage and the state parameters of digital printing press.

30. (Previously presented) The article of claim 29, wherein a statistical learning system is used to generate the model from the past measurements.

31. (Previously presented) An article comprising computer memory encoded with the estimation model of claim 29.

32. (Previously presented) An article for the digital printing press of claim 12, the article comprising memory encoded with data for causing the processor to apply a developer voltage estimation model to current state measurements of the digital printing press, an output of the model providing an estimated developer voltage.

33. (Previously presented) The article of claim 32, wherein the printing press includes a plurality of different BID units, and wherein a developer voltage is estimated for each BID unit.

34. (Previously presented) The article of claim 32, wherein the data further causes the processor to use the estimated developer voltage to print swatches at different digital dot areas; and for each swatch compute physical dot area, and add dot area coverage to a dot gain table.

35. (Previously presented) The article of claim 34, wherein the dot gain table is based on past state measurements of the digital printing press.

36. (Previously presented) The article of claim 32, wherein the data further causes the processor to apply the estimated developer voltage to a BID unit while controlling the BID unit to deposit ink dots.

37. (New) The method of claim 1, wherein the ink thickness control parameter is also based on current measurements of the at least one state parameter.